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§ 160.076-21 Component materials.

(a) Each component material used in the manufacturer of an inflatable PFD must—

(1) Meet the applicable requirements of subpart 164.019 of this chapter, UL 1191, UL 1180, and this section; and

(2) Be of good quality and suitable for the purpose intended.

(b) The average permeability of inflation chamber material, determined in accordance with the procedures specified in § 160.076-25(d)(2)(iii) must not be more than 110% of the permeability of the materials determined in approval testing required by § 160.076-25(d)(2)(iii).

(c) The average grab breaking strength and tear strength of the inflation chamber material, determined in accordance with the procedures specified in §§ 160.076-25(d)(2)(i) and 160.076-25(d)(2)(ii), must be at least 90% of the grab breaking strength and tear strength determined from testing required by §§ 160.076-25(d)(2)(i) and 160.076-25(d)(2)(ii). No individual sample result for breaking strength or tear strength may be more than 20% below the results obtained in approval testing.

(d) Each manual, automatic, or manual-auto inflation mechanism must be marked in accordance with § 160.076-39(e).

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 94-110, 61 FR 13946, Mar. 28, 1996]

§ 160.076-23 Construction and performance requirements.

(a) Each inflatable PFD design must—

(1) Meet the requirements in UL 1180 applicable to the PFD performance type for which approval is sought; and

(2) Meet any additional requirements that the Commandant may prescribe to approve unique or novel designs.

(b) [Reserved]

[CGD 94-110, 60 FR 32848, June 23, 1995, as amended by CGD 94-110, 61 FR 13946, Mar. 28, 1996]

§ 160.076-25 Approval testing.

(a) To obtain approval of an inflatable PFD design, approval tests specified in UL 1180 and this section must be conducted or supervised by a recognized laboratory using PFDs that have been constructed in accordance with the plans and specifications submitted with the application for approval.

(b) Each PFD design must pass the tests required by UL 1180 and this section that are applicable to the PFD performance type for which approval is sought.

(c) Each test subject participating in the tests in UL 1180, section 6 shall in addition, demonstrate that the test subject can repack the PFD such that it can be used in the donning tests and manual activation tests required by—

(1) Section 6.2.3 of UL 1180; and

(2) Sections 6.4.1, and 6.4.2 of UL 1180, if the test engineer cannot verify that the manual and oral inflators are properly stowed.

(d) Each PFD design must pass the following tests and evaluations:

(1) *Visual examination.* The complete PFD must be visually examined for compliance with the construction and performance requirements of §§ 160.076-21 and 160.076-23 and UL 1180 and 1191.

(2) *Inflation chamber properties.* The following tests must be conducted after successful completion of all other approval tests. The test samples used in the following tests must come from one or more PFDs that were each used in all the Use Characteristics Tests required by UL 1180 section 6.

(i) *Grab breaking strength.* The grab breaking strength of chamber materials must be determined in accordance with Method No. 5100 of Federal Test Method Standard 191 or ASTM D 751.

(ii) *Tear strength.* The tear strength of chamber materials must be determined in accordance with Method No. 5132 or 5134 of Federal Test Method Standard 191 or ASTM D 751.

(iii) *Permeability.* The permeability of chamber materials must be determined in accordance with ASTM D 1434 using CO₂ as the test gas.

(iv) *Seam strength.* The seam strength of the seams in each inflation chamber of at least one PFD must be determined in accordance with ASTM D 751 except that 25 by 200 mm (1 by 8 in.)